

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The MONTHLY WEATHER REVIEW for April, 1898, is based on 2,929 reports from stations occupied by regular and voluntary observers, classified as follows: 147 from Weather Bureau stations; numerous special river stations; 32 from post surgeons, received through the Surgeon General, United States Army; 2,583 from voluntary observers; 96 received through the Southern Pacific Railway Company; 13 from Life-Saving stations, received through the Superintendent United States Life-Saving Service; 31 from Canadian stations; 20 from Mexican stations; 7 from Jamaica, W. I. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Government Survey, Honolulu; Dr. Mariano Bárcena, Director of the Central Meteorological Observatory of Mexico; Mr. Maxwell Hall, Government Meteorologist,

Kingston, Jamaica; Capt. S. I. Kimball, Superintendent of the United States Life-Saving Service; and Commander J. E. Craig, Hydrographer, United States Navy.

The REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to generally conform to the modern international system of standard meridians, one hour apart, beginning with Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local meridian is mentioned.

STORM WARNINGS AND WEATHER FORECASTS.

By Lieut. Col. H. H. C. DUNWOODY, Supervising Forecast Official.

Under this head it is proposed to make note of all extreme and injurious weather conditions occurring during the month, and the warnings of the same issued by the Bureau, with instances, as far as reported by observers or the press, in which these warnings were of special public benefit. The signals displayed by the Weather Bureau will be referred to as "information," "storm," "hurricane," "cold-wave," and "norther," respectively.

The injurious conditions of note that have occurred during the month were the severe frosts of the 6th and 9th in the South Atlantic and Gulf States, the storms of the 13-15th and 18-20th in the Lake Region, and of the 26-29th on the Atlantic Coast, the severe norther of the 12-13th in California, and the flood in the middle Mississippi River.

FROSTS OF THE 6-9TH.

Heavy frosts occurred on the morning of the 6th to 9th, inclusive, in the South Atlantic and Gulf States, with light frost on the 8th as far south as Jacksonville. Warnings of these frosts were issued from the Central Office on the mornings of the 5th, 6th, and 7th, and extensively distributed throughout the regions named. The district subject to the greatest injury from frost at this time was the trucking region of North Carolina, and the following reports from the Weather Bureau officials of that region show the distribution of the warnings and their value to the interests affected.

From Mr. C. F. von Herrmann, section director, Raleigh, N. C., April 26, 1898:

Warnings were issued by telegraph from Raleigh indicating the probable occurrence of frosts on Wednesday, Thursday, and Friday mornings (April 6, 7, and 8). The number of regular display stations reached was fifty-four, of which twenty-four lie in the important eastern trucking section of North Carolina. Special warnings were also sent to eleven other points, and a number of replies to urgent inquiries by telegraph from persons not on our regular list. The warnings were also widely distributed by mail from Raleigh, Tarboro, and Parmele by the logotype system. A number of displaymen, besides posting warnings at the post office and depots, also distributed them by telephone to the principal truckers in their vicinity; they were also, where opportunity offered, sent into the country, and circulated verbally, so that, especially in the most important eastern section, they unquestionably were very widely disseminated. The average time that the warnings were received in advance of the frost was fourteen hours, amply sufficient to enable crops to be protected.

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The universal interest in the warnings is emphasized in nearly all communications received. The following typical extracts from such letters will be sufficient to convince any one on this point. Mr. H. R. Horne, of Fayetteville, writes: "Our truckers and others have shown much appreciation of these forecasts. The daily telegrams were displayed as soon as received, and telephoned to the principal truckers. The crop to which most attention has been given here and for which the warnings have been of most value is that of strawberries. The general method of protection is to cover with pine straw. The expense of covering these crops is quite an item to the truckers, and the acreage is such that it is important that the forecasts be received as early in the morning as practicable in order to give the time necessary to complete the work of protection. The only suggestion we have to offer is that in case of threatening weather forecasts be as definite as to frosts as practicable. We think that more interest is shown in the forecasts now than ever before."

Mr. W. P. Baughman, of Washington, N. C., states: